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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DANIELS, ANTHONY J	
ART UNIT	PAPER NUMBER
2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,997	MERON ET AL.	
	Examiner	Art Unit	
	ANTHONY J. DANIELS	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24-28,31-40 and 42-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24-28,31-40 and 42-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment, filed 6/30/2009, has been entered and made of record. Claims 24-28,31-40 and 42-44 are pending in the application.

2. The amendment to the drawings has overcome the examiner's objection.

3. Applicant's cancellation of claims 29 and 30 and amendment to the claim 31 have obviated the examiner's U.S.C. 112 rejection.

Response to Arguments

1. Applicant's arguments regarding the independent claims and the Davidson et al. reference have been fully considered but they are not persuasive.

Applicant argues, "...selecting and manipulating images based on criteria (in Davidson) neither explicitly nor inherently teaches assigning scores to frames based on a criterion and then positioning the frames based on their assigned score, as required in each of Applicants' claims 24, 34 and 39." The examiner respectfully disagrees with this assertion and submits that the selection process is inherently an assignment of a score to an image. More specifically, an image will be selected for fusing if it has a desired spectral characteristic. Therefore, each image can be interpreted as given a rating or score as to whether is should used in fusing. The positioning or fusing is then performed on those images. The examiner submits that this is the basis on positioning is performed (*whether or not the image has the desired spectral characteristic (i.e.*

selection)). Furthermore, Applicant admits that a score can be a rating (see Remarks, p. 8, Line 6). The rating in Davidson's case is whether or not the image has a desired spectral characteristic.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 24-28,31,32,34-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Davidson et al. (US 2004/0027500).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As to claim **24**, Davidson et al. teaches a method for displaying an in vivo image stream (Figure 1), said method comprising: displaying a plurality of flames from the in vivo image stream substantially simultaneously (Figure 2); assigning a score to each of the plurality of

frames based on a predetermined criterion ([0050], Lines 19-21); and positioning the frames in a spatial order based on the score assigned thereto ([0050], Lines 22-24).

As to claim **25**, Davidson et al. teaches the method according to claim 24 comprising displaying the in vivo image stream as a multi-frame image stream (Figure 2).

As to claim **26**, Davidson et al. teaches the method according to claim 24 comprising adjusting a rate at which the multi-frame image stream is displayed based on the content of the frames ([0030], Lines 8 and 9).

As to claim **27**, Davidson et al. teaches the method according to claim 24 wherein the score is assigned based on a degree of variation of the displayed images as compared to a reference image ([0050], Lines 19-21, *{The reference is frame is one of the frames whose spectral characteristics is analyzed.}*).

As to claim **28**, Davidson et al. teaches the method according to claim 24 wherein the score is assigned based on a degree of color variation between the displayed images ([0050], Lines 19-22, "…intensity…").

As to claim **31**, Davidson et al. teaches the method according to claim 24 comprising adjusting the size of at least one of the frames displayed based on the assigned scores.

As to claim **32**, Davidson et al. teaches the method according to claim 24 wherein the in vivo image stream includes frames captured from more than one image sensor ([0037], Lines 13-16).

As to claim **34**, Davidson et al. teaches a system for displaying an in vivo image stream (Figure 1), the system comprising: an in vivo imaging device to transmit an in vivo image stream (Figure 1, capsule "40"); a processor (Figure 1, data processor "14") to generate a multi-frame

image stream from the in vivo image stream, to assign a score to each of a plurality of frames to be displayed substantially simultaneously based on a predetermined criterion ([0050], Lines 19-21) and to determine a spatial position of frames in the multi-frame image stream based on the score assigned thereto ([0050], Lines 22-24); and a display to display said multi-frame image stream (Figure 2).

As to claim **35**, Davidson et al. teaches the system of claim 34 wherein the in vivo imaging device is an autonomous capsule ([0026], Line 4).

As to claim **36**, Davidson et al. teaches the system of claim 34 comprising a pH sensor ([0061], Line 8).

As to claim **37**, Davidson et al. teaches the system of claim 34 wherein the score is assigned based on data detected by a sensor reading ([0050], Lines 19-21, *{Intensity, saturation or hue is based on the image which is read from an image sensor.}*)).

As to claim **38**, Davidson et al. teaches the system of claim 34 wherein the processor is to adjust the stream rate of the multi-frame image stream ([0030], Lines 8 and 9).

As to claim **39**, Davidson et al. teaches a method for displaying an in vivo image stream (Figure 1), the method comprising: selecting a plurality of frames from an in vivo image stream; assigning a score to each of a plurality of frames based on a criterion of interest; positioning the plurality of frames in an order based on the score assigned thereto; and displaying the plurality of frames substantially simultaneously (Figure 2; [0050]).

As to claim **40**, Davidson et al. teaches the method according to claim 39 comprising comparing a frame from the plurality of frames to a reference image ([0050], Lines 19-21, *{The reference is frame is one of the frames whose spectral characteristics is analyzed.}*).

As to claim **41**, Davidson et al. teaches the method according to claim 39 comprising assigning scores to the plurality of frames based on the criteria of interest ([0050], Lines 19-21, "...intensity...").

As to claim **42**, Davidson et al. teaches the method according to claim 39 wherein at least two of the plurality of frames are displayed having different sizes ([0038]).

As to claim **43**, Davidson et al. teaches the method according to claim 39 wherein score is assigned based on color variation between the plurality of frames ([0050], Lines 19-22).

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davidson et al. (US 2004/0027500) in view of Iddan et al. (US # 5,604,531).

As to claim **33**, Davidson et al. teaches the method according to claim 24. The claim differs from Davidson et al. in that it further requires the step of displaying sensor data from a sensor other than an image sensor substantially simultaneously with the frames from the in vivo image stream.

In the same field of endeavor, Iddan et al. teaches an in vivo imaging stream wherein a monitor that displays an image stream simultaneously displays the position of a capsule in a tract in the body. The capsule position is calculated from antenna readings (Figure 6). In light of the teaching of Iddan et al., it would have been obvious to one of ordinary skill in the art to simultaneously display the position of the capsule along with the stream, because an artisan of ordinary skill in the art would recognize that this would allow a doctor to locate a problem in the body and thus provide a better diagnosis.

2. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davidson et al. (US 2004/0027500).

As to claim **44**, Davidson et al. teaches the method to claim 27. Although it is not stated explicitly in Davidson et al., the examiner takes **Official Notice** that comparing healthy tissue images and captured images to diagnose diseases is a well known and expected concept in the art. One of ordinary skill in the art would have been motivated to do this in the system of Davidson et al., because it allows for automatic and unobtrusive way to detect possible diseases.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. DANIELS whose telephone number is (571)272-7362. The examiner can normally be reached on 8:00 A.M. - 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AD
9/8/2009

/Sinh Tran/
Supervisory Patent Examiner, Art Unit 2622